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LAIRD NICKY.

LAIRD NICKY, about forty years ago, was a conspicuous inhabitant of the village of Half-starvet, in a mountainous district of Scotland. A most indefatigable wrestler with the difficulties of this life was the Laird; a mere day-labourer in his calling, but one so diligent, and so ingenious in turning all things to account, that before he was past middle life, he had realised enough of money to purchase a field in his neighbourhood, for which reason he had obtained an appellation which, in Scotland, is denied to no possessor of land, however small its extent. Nicky was a bulky man, always dressed in the meanest of attire. He had a cottage, with various accommodations for an old horse, a cow, a pig, and some poultry. To anything by which money could be made he was ready to turn his hand. He even swept chimneys; reserving, however, for this duty, Saturday, for the prudent reason, that it was the last day of his weekly shirt. While doing day-work for others, he was sure to have several half-hours out of every four-and-twenty, to devote to delving and dibbling in his own garden, to repairing his hen-house and piggery, or driving out dung to his own land. Sometimes he would be seen mending the thatch of his house, invested in a woman's petticoat, to protect his clothes, albeit one would have thought them little worthy of such care. At another time, you would see him driving home a load of some country stuff, of which he was going to make a merchandise. Long before any learned agricultural society pointed out the thing, Nicky had found it to his advantage to lay a set of old doors over his dung-heaps, to save it from evaporation, and had learned to drain it into a hole, which he kept carefully covered over with a large slate. He had a wife in delicate health and many small bairns, and was rather hard to them all, his own iron will leaving him no sympathies for the weaknesses of others. Poor Nelly wished much to be allowed the little luxury of tea, but had to take it standing at a cupboard, which she was ready to shut up if her husband should come in. She has been known occasionally, in his presence, to take it as a medicine in a cup sprinkled with meal. At dinner, he sat with the potato-pot between his knees, taking care, in the distribution of the contents, that the hunger of the bread-winner of the family should be amply satisfied, come of others what might. He was a healthy man under all his hard work, until the establishment of a Friendly Society in the village; after which, he generally had an illness of several weeks in the dead of winter, especially if the usual labours of such men as he were interrupted by snow. Nicky would then mount an old plaid and a poly-chromatic night-cap, and, taking up a

position by the fireside, become entitled to an allowance of five shillings a week from 'the Box.' There was a scandalous story of the inspector or visitor of the society having found him one day during his illness engaged in the mending of his thatch; but strict justice obliges us to record that, on the visitor expressing his gratification at seeing him well again, he cried: 'Weel! I'm far frae weel. D'ye no see, man, I've a man working at the back o' the house here, and I was just shewing him what was to be done.' It must also be remembered in Nicky's favour, that, amidst all his worldly prosperity, he was a man who never forgot that he was mortal. In his walk and conversation, he was rather noted for seriousness, as well as constant readiness to testify to the infirmity of poor human nature. 'It was just grand,' his neighbours declared, 'to hear him expounding points by the fireside in the gloaming; and at a death-bed he was very nearly as po'orfu' as the minister himself.'

In the younger days of Laird Nicky, game was a thing little thought of in the north. Men now and then went out with fowlingpieces, and spent a forenoon in the turnip-fields seeking for partridges, or in the moors looking for grouse, and next day they were at their usual avocations. No country gentleman as yet thought of deriving a revenue from the wild animals on his estate. No man dreamt of going to live a month at a time in the wilderness, merely to amuse himself by the slaughter of the fowls of the air. But, by and by, it became customary for English gentlemen of fortune to take large tracts of Scottish moorland on lease, with a view to the exclusive privilege of shooting on those grounds, thus establishing a kind of second rent for such property, often not much less than the first. Many rich Southrons bought hyperborean estates for the sake of the sport they could afford. It was, of course, essential to this system, that the game should be encouraged and protected as much as possible, so that there really might be birds to shoot; for to go with all the proper apparatus and ample provision for a month's living at a particular place, and, after all, scarcely start a single wing, was a solecism not to be submitted to if it could be at all avoided.

Laird Nicky marked the revolution which was going on, and could not but observe with profound interest, how, since the game had begun to be protected by means of keepers and shepherds, there had been such an increase in the quantity which his unpretending neighbours were able to send by the carrier to be sold in Edinburgh. He heard of the high prices which grouse realised, and longed to take a part in the traffic. It occurred to him, however, that merely to pick up an occasional brace in the course of a country ramble,

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and commit them to Jock Jaffray next day as he came past with his cart, in the hope of getting three or four shillings returned from the poultener in the ensuing week, was poor work, not worthy of a man of any genius. He soared a higher flight. He announced his intention of taking out the licence for game, like his more wealthy neighbours.

People thought Nicky had gone mad. Pride in his little field, recently purchased, had evidently turned his brain. And many were the moral reflections on the subject. 'Eh, dear sake, to think on the world's gear haeing sic an effect! What's the guid o't, if we canna guide it? Eh, ay. Eh, we're puir frail creatures, and haes mickle need to pray for strength to keep us out o' vanities.' Nicky said nothing, giving no reply even to questions which were merrily put to him, as to the moor he designed to take for the season, the friends he intended to invite to his box, and so forth. When the longed-for *Twelfth* arrived, he remained at home as usual, very busy, however, in erecting a curious many-sided hut or lodge at the corner of his field, apparently designed as a kind of summer-house. It was also remarked that he spent a good deal of his time in taking down and doing up a number of old fowling-pieces which he had lately purchased. He seemed so much engaged in these pursuits as to have forgott his harvest. There was his crop of oats fully ripe, and regularly 'stooked,' but no word of Nicky taking it in. What could it all mean? Some weeks elapsed; and the labours of autumn were everywhere at an end. The October frosts were setting in, and still there were Nicky's oat-stooks standing out in the field! Why, the very birds from the neighbouring moors—Sir George Telfair's particularly—were beginning to come down to eat the neglected grain, and it was evident that in a very little time they would make an end of it. All his usual thirst had certainly deserted him.

One forenoon, the quiet of the village was disturbed by a quick series of sharp loud sounds, not unlike a *feu de joie*, and most of the people were immediately astir, to see what had happened. On due examination, it was found that the sound had proceeded from the queer-looking hut, or summer-house, in Nicky's field, and was produced by a set of fowling-pieces which that mysterious person had arranged there on a frame to go off together on the setting fire of a train, and which had actually at this first shot killed about a score of grouse and partridges. Nicky was now coolly gathering up his many victims in a large sack. It appeared that he had taken his idea from the machine of the regicide Fieschi, only so fixing his pieces that one bore directly upon each of the six or seven heaps into which he had collected his crop. Having prepared everything in the most careful manner, he had set himself down to wait until a considerable number of birds was gathered to the spot; when, firing the train, he had dealt sudden destruction amongst them, with the result which has been stated. His neighbours were lost in wonder at what they saw, and it was some time before they thoroughly comprehended the drift of the whole affair. When at length they understood Nicky's plan and its effects, they readily yielded him the admiration due to his superior genius. 'Guid faith, Nicky kens what he's about. I've warrant he's an awld ane. Eh, wha would haе thought it?'

When Nicky had got his machine reloaded, he found it necessary to warn his admiring neighbours away from the premises. 'Ye see, my friends, this is a solitary business o' mine. The birds winna come unless they see a clear field. Let every man, then, gang hame to his ain house, and come as little this way as possible.'

I hope to get another shot afore dinner-time.' They readily obeyed him; and in a couple of hours or so he did get a second shot, and an effective one, nearly the same number of birds being slaughtered. In short, Nicky was able to send forty brace of birds into Edinburgh next morning by the hands of Jock Jaffray; thus, as he said, clearing the licence the first day, besides 'a wee thing owe.'

It was not a game to be played at too much, for in that case he would have soon created a general impression among the bird-population of the district, to the effect that Nicky's field was dangerous ground. Too knowing for this, he abstained from firing for three days, during which, however, he left a single stock exposed, just to keep up the connection. Then he once more exposed the whole of his crop, and, taking up his position in the summer-house, made due preparations for what he called another field-day. The birds came in nearly as great numbers as before, and, by superior marking, he was not less successful than he had been at first. He generally bagged from six to ten brace at a shot; and before the evening he was again in a condition to send a good load of game to town. By this second day's proceedings, his profits could not well be less than five pounds.

The intelligence being quickly spread over the district, there was a degree of fury inspired into the breasts of the gentlemen of the adjacent moors, such as had no parallel in the annals of sporting. The first impression everywhere was that Nicky was a poacher, alike without government-licence and permission of landlord, so that there could be no difficulty in suppressing and punishing him. But it soon became known that Nicky did possess a licence, and only sported on his own estate, and then, indeed, the rage of the legitimate sportsmen knew no bounds. It was speedily seen, however, that with such a person as Nicky, so adroit in steering clear of the law, there could be nothing gained by threats or bullying, and it was therefore thought well to try what could be done by fair means. Sir George Telfair and another gentleman agreed to go together to Nicky, and do their best for the general interest.

Nicky had ensconced himself in his citadel, and adjusted his Fieschi machine with its usual deadly accuracy, so as to sweep the whole field, when Sir George and his friend made their approach. Stepping quickly up, and looking in at him where he sat, much like a great spider in the midst of a radiating web, Sir George said: 'Why, my friend, this is a strange trade you have taken to in your old days.'

'Ou, ay, sir, but a very guid trade, nevertheless. It turns in a hantle o' siller.'

'I daresay it may, my friend; but it is not a live-and-let-live kind of trade, for if you go on much longer, you will leave none of it to any but yourself.'

'Oh, I daresay that, sir,' replied Nicky; 'but then, ye ken, ilk ane for himself in this world, and a bountiful Providence for us a'. That's guid doctrine, I trow; at least, it's a doctrine that folk act on, and I dinna ken onything that can be said against it.'

'O yes. But then it is not properly a trade at all. The shooting of grouse and partridges is sport, and it seems to me a strange kind of it, to go to work in this mechanical way—leaving the poor birds no sort of chance, you know.'

'Yes; but if it be my pleasure to take my sport in this way, what has anybody to say against it? You please yourself by going out and trudging a dozen miles and mair over a wat cauld moor for twathree birds. I please myself by sitting quietly here, and shooting ten for your ane. What objection can ye ha'e til'?'

'Oh, my friend, I don't pretend to deny your right to shoot over your own estate, since you have, as I understand, obtained a licence. But you must be well aware that the birds you are shooting, are birds that

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'Nae manner o' richt!' cried the Laird. 'What richt hae you to say that to me, sir? Do nae o' other folks' birds come over the boundary into your moor, and, when they do, do you abstain frae shooting them? I maun say, I never yet heard tell o' a sportsman restricting himself to the birds belonging to his ain grunds!'

'Well, we can't be always sure whether the birds be our own, and practically we don't refuse any that come; but then we all take our chance alike. You are shooting my birds to-day; I may be shooting one or two of yours to-morrow. But here any birds that you shoot *must be* other people's, for you have none of your own to shoot. And see what a plan you take to bring the birds about you. None of us attempt to wile them upon our grounds, with the design of shooting them.'

'It just a' comes to this, that I am only doing what I has a richt to do. And sae, gentlemen, if you ha'e nae mair to say, I wish you would oblige me by going about your ain business, and leaving me to go about mine. Guid-morning to ye l'

So saying, our village Hampden turned into his fortress with such a dogged air, that the two gentlemen were obliged to confess themselves fairly baffled. Before they left the place, they heard a shot of the infernal machine, and were informed that upwards of a score of birds had fallen. They returned to their moorland lodges in all but absolute despair.

It was a serious matter to the proprietors of the district, for if there should be anything like a failure of the *Tetraonidae* in that quarter of the world, they would lose what was about as good as fifteen years' purchase on the value of their estates. No wonder that they laid their heads together to devise some means of check-mating Nicky. They first thought of trying to prevent him from getting the licence next year, but soon discovered that they had no formal available ground on which to make objection. Then they thought of causing a lawyer to inquire if Nicky was quite firm and secure in his title to that fatal field of blood. Mr McGurk, the well-known writer of the district, who had given ample assurance of his power of nosing out an ambiguity, set to work with all the means in his power, but was obliged to own that, to the best of his poor judgment, all was right. They afterwards made an effort to bring public opinion to bear upon Nicky, representing to the villagers that, if the gentlemen did not come to shoot, so much less money would be spent in their shops. But Nicky was not a man to be easily frightened by the curses, whether loud or deep, of his fellow-men, provided that he was assured of their having no legal charge to bring against him. Thus the first season passed over, without anything effectual being done to induce Nicky to give up his singular mode of sport. He confessed that he had cleared only fifty pounds by his work, and that sum might have been easily subscribed to buy him off; but of course the objection to this plan was insuperable—namely, that, when he was so bought off, they would have had half-a-dozen more of the villagers threatening to set up sporting in the same fashion, unless bought off also.

So Nicky went on with his shooting for three or four years, to the almost complete ruin of the neighbouring moors, some of which could no longer obtain tenants. The bitterness of hatred felt towards him by some of his landed neighbours, as well as by the whole tribe of gamekeepers, shepherds, and gillies, none of whom could bear to think of anybody cheating the gentlemen in the matter of game but themselves, was very great; but what could be done? It was often prophesied that he would come to some dismal end ere long; and at last the prediction appeared verified, when Nicky was found one night dead in a ditch by the

wayside, while the horse and cart which he had been driving came home without him; but, strange to say, there was no observable hurt about his person, and the procurator-fiscal became convinced that he had perished in a fit or some other natural way. Die how he might, there could be little doubt on the question, '*Cui prodest?*' for immediately after that event the moors began to reascend to their wonted value. As an example of what queer things come about sometimes, Nicky's field has for some years been the site of the kennel for the Garrulton Fox-hounds, so that it is now a spot as dear to the votaries of field-sports as it was once detestable.

APPROACHING REVOLUTION IN AGRICULTURE.

AMONG the new lights which have of late broken in upon the minds of those who lead the van in the science of agriculture, there is none more interesting than that which seems to foreshew the possibility of producing crops without manure. To make Dame Nature yield up her bounties with but little artificial assistance has long been among the dreams of philosophers; and now we have indications that the dreams are to give place to realities. No result could be more opportune if, as some political economists assert, agriculture affords far greater means and resources for the wellbeing of a population than trade, especially when made use of in reformatory purposes. The fact, they say, would have been demonstrated long ago if agriculture had only had fair play. Well, it has now got fair play, and is finding energy for improvements and experiments which are gradually leading to a solution of great questions, and to results very different from those imagined by theorists. Let us take a brief survey of the investigations; it is something more than mere dry reading.

Everybody knows that there are fifty-five or fifty-six elements which make up the mineral world, and only four of which are concerned in the vegetable world—namely, hydrogen, oxygen, carbon, and nitrogen or azote. If we knew precisely when, where, and how plants obtain their supply of these elements, our theory of agriculture would be complete, and there would remain only the pleasure and profit of reducing it to practice. But we are as yet on the threshold only of the required knowledge. What we do know from recent experiments is, that plants do absorb azote, and largely, from the atmosphere. Priestley said so many years ago: his conclusions, however, were disputed and rejected. As it happens, the productions which yield food to man and fodder to cattle most abundantly are those which come more especially under consideration. Farmers alternate root crops with grain crops, with a view to prevent exhaustion; but this exhaustion, as late experience demonstrates, is best prevented by offering all possible facilities for a free and full supply of nitrogen, and from the atmosphere rather than from other sources. Water and air, indeed, play a more important part in agriculture than many who till the soil by mere routine would be willing to believe. M. Baudrimont, professor of chemistry at the Faculty of Sciences at Bordeaux has just published a work 'On the Existence of interstitial Currents in Arable Soil, and the influence which they exert on Agriculture,' in which, after a long study of the subject, he states that there is a natural process at work by which liquid currents rise to the surface from a certain depth in the ground, and thus bring up materials that help either to maintain its fertility or to modify its character. Many phenomena of agriculture and of vegetation

have at different times been observed, which, hitherto inexplicable, are readily explained on this theory. Such, for example, the improvements which take place in fallows; and there is reason to believe that these currents materially influence the rotation of crops.

In Germany, Schleiden is attracting much attention by his masterly views on the phenomena of vegetation; and it will surprise many to hear that he admits of no relation between the fertility of a soil and the quantity of fertilising matters expended upon it. 'The goodness of the soil,' he says, 'depends upon its inorganic constituents, so far at least as they are soluble in water, or through continued action of carbonic acid; and the more abundant and various these solutions, the more fruitful is the ground.' Arguing from this view, it is not richness of soil or humus that produces the multiplied varieties of Alpine plants in Germany, or the absence of it that produces but few. 'Soluble mineral constituents' are shewn to be the characteristic of our cultivated fields; and 'an agricultural plant' is defined as one 'distinguished from wild individuals of the same species by peculiar qualities which constitute its fitness for culture, and which depend upon a modification of chemical action.' The amazing yield of Indian corn in Mexico—from 200 to 600 fold—is something which, with all our skill, we cannot accomplish, and is a fact in favour of the argument, 'that in no case do the organic substances contained in the ground perform any direct part in the nutrition of plants.' The annual destruction of organic matter all over the earth is estimated at 145 billions of pounds, equal to $2\frac{1}{2}$ billions of cubic feet; and if all vegetation depends on organic matter for nutrition, to satisfy this consumption 'there must have been, 5000 years back, ten feet deep of pure organic substance on its surface.' Another illustration is furnished by taking the number of cattle and other animals in France in a given year (1844), and observing the amount of food they consume. The process of nutrition would require 76,789,000,000 pounds of organic matter—six times more than the whole number contribute of organic matter towards reproduction, and in 100 years 'the whole organic material of the country would be consumed.'

Again: look at a farm. How much more is carried off from it than is given back again: generally the amount of its yield is three times greater than that of the organic matter it receives; while of the manure applied, the greater part is not taken up, but imperceptibly decomposed. Carbon is the most important of the constituents of plants: an acre of sugar-plantation produces 7500 pounds of canes, of which 1200 pounds are carbon, and yet sugar-plantations are rarely manured, and then only with the ashes of the burnt canes. With bananas the result is still more striking: the yield is 98,000 pounds of fruit in a year from a single acre, and of this 17,000 pounds—more than a fifth—are carbon; and the same acre will give the same return year after year for twenty or thirty years; and the ground at the end of that time will be richer than at the commencement, from nothing more than the decay of the large leaves of the plant. Here in Europe, too, the difference in weight and in carbon between the seed and the produce has often been noted—in wheat, 89 per cent.; in red clover, 158 per cent.; and in peas, 361 per cent. These facts afford evidence of a supply of carbon derived from other sources than those commonly supposed to exist; and while we know that seeds will germinate and become vigorous plants in pure quartzose sand, or in cotton wool, or on a board, we seem to have proof that the chief source of supply is the atmosphere. This is an interesting point, which further research will verify: Schleiden shews the process to be eminently simple. He says in his work, of which a translation has been published by the Horticultural Society: 'According to Link, Schwartz, and others, an acre of water-meadow

produces 4400 pounds of hay, which, when dry, contains 45·8 per cent. of carbon. The hay then yields 2000 pounds of carbon, to which 1000 pounds may be added for the portion of the year in which the grass is not cut, and the roots. To produce these 3000 pounds of carbon, 10,980 pounds of carbonic acid are requisite, which may be raised to 12,000 pounds, to compensate for the nightly expiration. Now, Schubler has shewn that an acre of so wretched a grass as *Poa annua* exhales in 120 days (too low a computation) of active vegetation 6,000,000 pounds of water. To supply the exigencies of the plants, therefore, it is only necessary for the meadow to imbibe $3\frac{1}{2}$ grains of carbonic acid with every pound of water.'

Mr Lawes has found, also, that in a plant of any one of our ordinary crops, more than 200 grains of water must pass through it, for a single grain of solid substance to accumulate within it. He states the evaporation from an acre of wheat during the period of its growth to be 114,860 gallons, or 78,510,000 gallons per square mile. With clover, it is rather more; with peas and barley, less. When we apply these calculations to a county or a kingdom, we are lost in the magnitude of the processes by which nature works; but we see the more clearly that, on such a scale, the quantity of material supplied by the air, though minute to the individual, becomes vast in the aggregate. We see, moreover, the necessity for understanding the relations between evaporation and rate of growth, and the laws and effects of absorption in soils. A thousand pounds of dry calcareous sand will gain two pounds in weight in twelve hours when the air is moist, while pure agricultural clay will gain thirty-seven pounds.

The source of nitrogen comes next to be considered; and this also is seen to be independent of manures. Hereupon, it is observed that 'our domestic plants do not require a greater supply than in a state of nature. A water-meadow which has never received any dung, yields yearly from forty to fifty pounds of nitrogen, while the best ploughed land yields only about thirty-one pounds. The plants for which most dung is used, as potatoes and turnips, are in fact proportionally the poorest in nitrogen.' That there is a supply independent of the soil, is further seen in the millions of hides furnished every year by the cattle of the Pampas without any diminution of produce; and in the great quantities of nitrogenous matters, hay, butter, and cheese, carried off from pasture-land; far more than is returned by the animals fed thereon. Experiments with various kinds of plants on various soils have satisfactorily demonstrated that increase of nitrogen in the land and in the crop does take place quite irrespective of supplies of manure.

With respect to ammonia, 'it appears that one-thirteenth of a grain in every pound of water is sufficient for the exigencies of vegetation, and there is perhaps no spring-water in the universe which contains so little.' Then as to sulphur and phosphorus, which are also among the constituents of plants, the quantity needed in proportion to the time of vegetation is so small, that one-540,000th of a grain of sulphuretted hydrogen per cubic foot diffused through the atmosphere to a height of 3000 feet is all that is required.

The consideration that cereals would soon disappear from the north of Europe, if not cultivated, and perhaps from nearly the whole of this quarter of the globe, adds weight to the arguments in favour of enlightened attention to the inorganic constituents of plants. The point is to bring the soil into harmony with the conditions by which growth may best be promoted. Much depends on the nature of the soil; the darkest coloured lands are generally the highest in temperature; hence the advantage of vegetable mould; while deep, light sands, and clay, which turns almost to stone in dry weather, weary and vex the cultivator by their unprofitableness. It is to be remembered, however, that soils

which have the highest temperature of their own, may not be those most susceptible of receiving heat—that is, from the sun, because some lands are warmed by the springs that irrigate them. Here we have an explanation of the phenomena of certain soils which are warm in winter and cool in summer. The application of humus evolves heat by the process of combustion; and sand, lime, clay, and humus, are the combinations needed, the clay being in a proportion of from 40 to 50 per cent.; if less than 10 per cent., the land will be too light and poor.

Although Schleiden's views apply chiefly to the practice of German agriculturists, they will be found to bear on the whole science of cultivation. In summing up, he insists strongly on the necessity for selecting good seed; that from a barren soil, he observes, is likely to be more true to its kind than from well-manured land. Also that the time of sowing should be adapted to the requirements of the plant; rye and barley, for instance, should be sown in drier weather than oats. And it will surprise many to read, that he advocates a less frequent use of the plough. He holds ploughing to be 'a necessary evil, one to be employed only so far as necessity requires,' because, by the too frequent loosening of the soil, the decomposition of humus is so rapid as to overbalance the benefit supposed to arise from exposure to the atmosphere. He shews, too, that covered fallows are in most cases preferable to naked fallows, as the latter tend to waste the valuable qualities of the soil; while, in a field sown with clover, the quantity of humus and carbonic acid is increased by the leaves preventing evaporation. Naked fallowing is to be adopted only when the soil cannot be loosened in any other way; but there is to be no stand-still; 'the notion of rest, so prevalent among cultivators, is clearly wrong, except it be rest from the destructive influence of the plough;' and always must it be borne in mind, 'that manures do not act immediately on vegetation by means of their organic contents, but by reason of the inorganic substances which they involve.'

Such is a brief outline of some of the views of one who holds a high position among men of science; and though in some particulars they may seem to be at variance with practice in this country, there is much in them worthy the attention of intelligent cultivators. It is remarkable how different branches of science help in advancing the question, and facts arise in support of the philosopher's theories. By a recent inquiry into the amount and nature of the rain-fall at the observatory, Paris, it has been proved, that from the 1st of July 1851 to the end of June 1852, the quantity of azote combined therewith was—omitting fractions—twenty-two kilogrammes per acre, being twelve kilogrammes in the form of azotic acid, and ten kilogrammes of ammonia. The quantity of uncombined ammonia in the same time was thirteen kilogrammes per acre; and of uncombined azotic acid, forty-six kilogrammes. In the months when azotic acid was most abundant, there was least ammonia; the former always increases with stormy weather. Besides these elements, the quantity of chlorine present was equivalent to eighteen kilogrammes of marine salt, leaving out the insoluble matters held in suspension.

In all this, we seem to get a glimpse of the law of supply and demand in the great vegetative operations of nature; and we see that those who advocate a more sparing employment of manures are not without good reason for their arguments. In the middle of Russia, corn is grown year after year on the same land with no other fertiliser than the burnt straw; and in parts of Spain, wheat and barley succeed each other without any manure at all. And without going so far for facts, we have them close at hand in one of our midland counties. A few years ago, the Rev. S. Smith of Lois Weeden, in the neighbourhood of Banbury, instituted a course of experiments on this very point, and with results which

are singularly interesting. He took a field of four acres, having a gravelly soil, with clay, marl, and gravel as the subsoil. It had been hard worked for a hundred years; but except a thorough ploughing, no other means were taken to improve it: not a particle of manure was supplied. Wheat was then sown in single grains, three inches apart, and in rows a foot apart, a space of three feet being left quite bare between each three rows, and this was continued in alternate stripes all across the field. The sowing took place at the beginning of autumn; and in November, when the planted rows began to show, all the intervening three-feet spaces were trenched by the spade, and six inches of the subsoil made to change places with the surface. 'In the spring,' says the reverend agriculturist, 'I well hoed and hand-weeded the rows of wheat, and stirred the intervals with a one-horse scarifier three or four times, up to the very period of flowering in June.' The crop looked thin and miserable until after April, when it began 'to mat and tiller'; it did not turn yellow in May, and the stalk grew so stout and strong as to bear up well against storms. When harvested, the result was highly gratifying, for the yield amounted to from thirty-six to forty bushels per acre, or rather per half-acre, seeing that as the alternate stripes were left bare, only one half of the field was really planted. The quantity of seed used per half-acre was a little more than a peck.

Adjoining the field in which these experiments were carried on was another which had four ploughings, ten tons of manure, six or seven times as much seed, and yet it gave a quarter less to the acre. This might be looked on as an accident, were it not that Mr Smith has repeated his experiment year after year, and always with greater success. He believes that if all the conditions be literally fulfilled, the same favourable result may invariably be obtained. No manure whatever is to be used; and in the second year, the stripe is to be sown which was left bare in the first; and so on, changing from one to the other, year after year.

Here arises the question as to cost, and in contrasting the expense of ploughing with that of spade-labour, he finds that he takes up only so much of the subsoil as the atmosphere will readily decompose in the year—four, five, or six inches, descending gradually to two spits. He employs six men at 2s. a day, and they dig an acre in five days, making an outlay of 60s. for the whole; but as only one half is to be dug for the year's crop, the time and cost are reduced by one-half, and thus brought down to the cheapest rate of ploughing. The cost per acre, in the instance above mentioned, was L.3, 14s., the return from the four quarters and two bushels of wheat, and the straw, L.11, 14s., leaving a profit of L.8. It should be understood that the cost includes rates, taxes, interest, scarifying, reaping—in short, all the operations from digging to harvest.

The parish in which Mr Smith resides contains 200 wheat-growing acres; he calculates that fifty labourers would have dug these in two months and eight days, so that, beginning the last week in September, all would be finished by the first week in December, leaving five months for the occurrence of casualties and their reparation before the crop has grown. His system, after the first ploughing, it will be seen, is based entirely on *spade-husbandry*; he is of opinion, that it is applicable to thousands of acres 'of hitherto impracticable and unremitting clay.'

Schleiden and Smith agree in their faith in nature's unassisted fertilising powers, if not in their mode of clearing the way for the exercise of those powers. The system of the latter combines fallow without loss, for the yield is double; nature is left to drop the ammonia, and time is given for its combination with mineral matters in the soil. The atmosphere contains all the organic elements of wheat, and if the ground be kept stirred, uncrusted, and loosened to a suitable depth, they will find

their way in; and nitrogen even, as late experiments demonstrate, will be absorbed. As for the inorganic constituents, Mr Smith believes that they always exist in sufficient abundance, if sought for by frequent digging.

A DEER-HUNT IN A 'DUG-OUT.'

THERE are six well-defined species of deer in North America, in its temperate and frigid zones. More than two species are rarely found inhabiting the same district, and the geographical distribution of these animals is somewhat singular, the rein-deer, moose, elk, and common deer occupying a succession of zones from north to south, but overlapping each other. There are two other species—the black-tails, and the long-tails—and of these less is known than of any of the preceding. The reason is, that both these species inhabit a region of country hitherto but little explored by men of science. Both are found only in the western half of the continent—that is, in the wild regions extending from the Mississippi to the Pacific. In longitude as far east as the Mississippi, they are rarely seen; but as you travel westward, either approaching the Rocky Mountains, or beyond these to the shores of the Pacific, they are the common deer of these countries. The black-tailed kind (*Cervus macrotis*) is more southern in its range. It is found in the Californiae, and the valleys of the Rocky Mountains, as far south as Texas; while to the north it is met with in Oregon, and on the eastern side of the Rocky Mountains, as high as the fifty-fourth parallel. The long-tailed species (*C. leucurus*) is the most common deer of Oregon and the Columbia River, and its range also extends east of the Rocky Mountains, though not so far as the longitude of the Mississippi. These two species are often confounded with each other, though in many respects they are totally unlike. Indeed, there are two varieties of the former, both having the black tails and long ears which distinguish them from other animals of the deer kind. From the great length of their ears, they are called mule-deer by many hunters; but black-tails is the name most commonly used, from the circumstance that the hair upon their tail-tips is of a deep jetty blackness, and very conspicuous. The black-tails are larger than the long-tails, their legs shorter, and their bodies altogether of a stouter build. In running, they bound with all their feet raised at once; while those of the long-tailed species run more like the common fallow-deer, by trotting a few steps and then giving one bound, and trotting as before. It is to this species our description will now be confined, as in connection with it the adventure we are about to relate befall us.

The long-tailed deer is one of the smallest of the deer kind. Its weight rarely exceeds 100 pounds. It resembles in form and habits the common fallow-deer, the chief distinction being the tail, which renders the former a conspicuous object. This appendage is often found to measure eighteen inches in length! While running, it is held erect, and kept constantly switching from side to side, so as to produce a singular and somewhat ludicrous effect upon the mind of the spectator. Its gait is also peculiar. It first takes two ambling steps that resemble a trot, after these it makes a long bound, which carries it about twice the distance of the steps, and then it trots again. No matter how closely pursued, it never alters this mode of progression.

Like the fallow-deer, it produces spotted fawns, which are brought forth in the spring, and change their

colour to that of the deer itself in the first winter. About the month of November they gather into herds, and remain together until April, when they separate, the females secreting themselves to bring forth their young.

The long-tailed deer is found principally in wooded countries; but its favourite haunts are not in the heavy timber of the great forests, but in the park-like openings that occur in many parts of the Rocky Mountain valleys. Sometimes whole tracts of country are met with in these regions whose surface exhibits a pleasing variety of woodland and prairie; sloping hills appear with coppices upon their crests and along their sides. Among these natural groves may be seen troops of the long-tailed deer, browsing along the declivities of the hills, and, by their elegant attitudes and graceful movements, adding to the beauty of the landscape.

Some years ago, I had an opportunity of hunting the long-tailed deer. I was on my way across the Rocky Mountains to Fort Vancouver, when circumstances rendered it necessary that I should stop for some days at a small trading-post on one of the branches of the Columbia. I was, in fact, detained, waiting for a party of fur-traders with whom I was to travel, and who required some time to get their packs in readiness. The trading-post was a small place, with miserable accommodations, having scarcely room enough in its two or three wretched log-cabins to lodge half the company that happened at the time to claim its hospitality. As my business was simply to wait for my travelling companions, I was of course *ennuyé* almost to death in such a place. There was nothing to be seen around but packs of beaver, otter, mink, fox, and bear skins; and nothing to be heard but the incessant chattering of Canadian voyageurs, in their mixed jargon of French, English, and Indian. To make matters still more unpleasant, there was very little to eat, and nothing to drink but the clear water of the little mountain-stream upon which the fort was built.

The surrounding country, however, was beautiful; and the lovely landscapes that on every side met the eye almost compensated for the discomfits of the post. The surface of the country was what is termed rolling—gentle undulations here and there rising into dome-shaped hills of low elevation. These were crowned with copes of shrubby trees, principally of the wild filbert or hazel (*corylus*), with several species of rose and raspberry (*rubus*), and bushes of the juniper (*amelanchier*), with their clusters of purplish-red fruit. The openings between were covered with a sward of short gramma grass, and the whole landscape presented the appearance of a cultivated park; so that one involuntarily looked along the undulating outlines of the hills for some noble mansion or lordly tower. It is just in such situations that the fallow-deer delights to dwell; and these are the favourite haunts of its near congener the long-tail. I had ascertained this from the people at the post; and the fact that fresh venison formed our staple and daily food, was proof sufficient that some species of deer was to be found in the neighbourhood. I was not long, therefore, after my arrival, in putting myself in train for a hunt.

Unfortunately, the gentlemen of my company were too busy to go along with me; so also were the numerous *engagés*; and I set out taking only my servant, a *bois brûlé*, or half-breed, who happened, however, to be a good guide for such an expedition, as well as a first-rate hunter.

Setting out, we kept down the stream for some distance, walking along its bank. We saw numerous deer-tracks in the mud, where the animals had gone to and from the water. These tracks were almost fresh, and many of them, as my servant averred, must have been made the previous night by the animals coming to drink—a common habit with them, especially in hot weather. But, strange to say, we walked a mile or

more without getting a glimpse of a single deer, or any other sort of animal. I was becoming disengaged, when my man proposed that we should leave the stream, and proceed back among the hills. The deer, he believed, would be found there.

This was resolved upon; and we accordingly struck out for the high ground. We soon climbed up from the river bottom, and threaded our way amidst the fragrant shrubberies of amelanchiers and wild-roses, cautiously scrutinising every new vista that opened before us. We had not gone far before we caught sight of several deer; we could also hear them at intervals, behind the copes that surrounded us, the males uttering a strange whistling sound, similar to that produced by blowing into the barrel of a gun, while this was occasionally replied to by the goat-like bleat of the females. Strange to say, however, they were all very shy, and notwithstanding much cautious crouching and creeping among the bushes, we wandered about for nearly two-thirds of the day without getting a shot at any of them. What had made them so wary we could not at the time tell, but we learned afterwards, that a large party of Flathead Indians had gone over the ground only a few days before, and had put the deer through a three days' chase, from which they had not yet recovered. Indeed, we saw Indian 'sign' all along the route, and at one place came upon the head and horns of a fine buck, which, from some fancy or other of the hunter, had been left suspended from the branch of a tree, and had thus escaped being stripped by the wolves. At sight of this trophy, my companion appeared to be in ecstasies. I could not understand what there was in a worthless set of antlers to produce such joyful emotions; but as Blue Dick—such was the sobriquet of my servant—was not much given to idle exhibitions of feeling, I knew there must be something in it.

'Now, master,' said he, addressing me, 'if I had something else, I could promise you a shot at the long-tails, shy as they are.'

'Something else! What do you want?' I inquired.

'Something that ought to grow about year, else I'm mighty mistaken in the sign. Let me try down yonder,' and Dick pointed to a piece of low swampy ground that lay to one side of our course.

I assented, and followed him to the place. We had hardly reached the border of the wet ground, when an exclamation from my companion told me that the 'something' he wanted was in sight.

'Yonder, master; the very weed: see yonder.' Dick pointed to a tall herbaceous plant that grew near the edge of the swamp. Its stem was fully eight feet in height, with large lobed leaves, and a wide-spreading umbel of pretty white flowers. I knew the plant well. It was that which is known in some places as masterwort, but more commonly by the name of cowparsnip. Its botanical name is *Heracleum lanatum*. I knew that its roots possessed stimulant and carminative properties; but that the plant had anything to do with deer-hunting, was ignorant. Dick, however, was better acquainted with its uses in that respect; and his hunter-craft soon manifested itself. Drawing his knife from its sheath, he cut one of the joints from the stem of the heracleum, about six inches in length. This he commenced fashioning somewhat after the manner of a penny-trumpet. In a few minutes he had whittled it to the proper form and dimensions, after which he put up his knife, and applying the pipe to his lips, blew into it. The sound produced so exactly resembled that which I had already heard to proceed from the deer, that I was startled by it. Not having followed his manoeuvres, I fancied for a moment that we had got into close proximity with one of the long-tails. My companion laughed, as he pointed triumphantly to his new made 'call.'

'Now, master,' said he, 'we'll soon "rub out" one of the long-tail bucks.' So saying, he took up the antlers,

and desired me to follow him. We proceeded as before, walking quickly but cautiously among the thickets, and around their edges. We had gone only a few hundred paces further, when the hollow whistle of a buck sounded in our ears.

'Now,' muttered Dick, 'we have him. Squat down, master, under the bush—so.' I did as desired, hiding myself under the leafy branches of the wild rose-trees. My companion cowered down beside me in such an attitude that he himself was concealed, while the buck's head and antlers were held above the foliage, and visible from several points where the ground was open. As soon as we were fairly placed, Dick applied the call to his lips, and blew his mimic note several times in succession. We heard what appeared to be an echo, but it was the response of a rival; and shortly after we could distinguish a hoof-stroke upon the dry turf, as if some animal was bounding towards us. Presently it appeared, a fine buck, at an opening between two copes, about 100 paces from the spot where we lay. It had halted, thrown back upon its flanks, until its haunches almost touched the ground, while its full large eye glanced over the opening, as if searching for some object. At this moment Dick applied the reed to his lips, at the same time moving the horns backward and forward, in imitation of a buck moving his head in a threatening manner. The stranger now perceived what appeared to him the branching horns of a rival, hearing, at the same time, the well-known challenge. This was not to be borne, and rising erect on all-fours, with his brow antlers set forward, he accepted the challenge, and came bounding forward. At the distance of twenty paces or so, he halted, as if still uncertain of the character of his enemy; but that halt was fatal to him, for by Dick's directions I had made ready my rifle, and taking sight at his breast, I pulled trigger. The result was as my companion had predicted, and the buck was rubbed out.

After skinning our game, and hanging the meat out of reach of the barking wolves, we proceeded as before; and soon after another buck was slain in a manner very similar to that described. This ended our day's hunt, as it was late before Dick had brought him of the decoy; and taking the best parts of both the long-tails upon our shoulders, we trudged homeward to the post.

Part of our way, as we returned, lay along the stream, and we saw several deer approaching the water, but, numbered as we were, we failed in getting a shot. An idea, however, was suggested to my companion that promised us plenty of both sport and venison for the next hunt, which was to take place by night. This idea he communicated to me for my approval. I readily gave my consent, as I saw in the proposal the chances of enjoying a very rare sport. That sport was to be a fire-hunt; but not as usually practised among backwoodsmen, by carrying a torch through the woods. Our torch was to float upon the water, while we were snugly seated beside it; in other words, we would carry our torch in a canoe, and floating down stream, would shoot the deer that happened to be upon the banks drinking or cooling their hoofs in the water. I had heard of the plan, but had never practised it, although I was desirous of so doing. Dick had often killed deer in this way, and therefore knew all about it. It was agreed, then, that upon the following night we should try the experiment.

During the next day, Dick and I proceeded in our preparations without saying anything to any one. It was our design to keep our night-hunt a secret, lest we might be unsuccessful, and get laughed at for our pains. On the other hand, should we succeed in killing a goodly number of long-tails, it would be time enough to let it be known how we had managed matters. We had little difficulty in keeping our designs to ourselves. Every one was busy with his own affairs, and took no

heed of our manoeuvres. Our chief difficulty lay in procuring a boat; but for the consideration of a few loads of powder, we at length borrowed an old canoe that belonged to one of the Flathead Indians—a sort of hanger-on of the post. This craft was simply a log of the cotton-wood (*Populus candicans*), rudely hollowed out by means of an axe, and slightly rounded at the ends to produce the canoe-shape. It was that species of water-craft popularly known throughout Western America as a 'dug-out,' a phrase which explains itself. It was both old and rickety, but after a short inspection, Blue Dick declared it would do 'fust-rate.'

Our next move was to prepare our torch. For this we had to make an excursion to the neighbouring hills, where we found the very material we wanted—the dry knots of the pitch-pine-tree (*Pinus rigida*). A large segment of birch-bark was then sought for and obtained, and our implements were complete. At twilight all was ready, and stepping into our dug-out, we paddled silently down stream. As soon as we had got out of the neighbourhood of the post, we lighted our torch. This was placed in a large fryingpan upon the bow, and was in reality rather a fire of pine-knots than a torch. It blazed up brightly, throwing a glare over the surface of the stream, and reflecting in red light every object upon both banks. We, on the other hand, were completely hidden from view by means of the birch-bark screen, which stood up between us and the torch.

As soon as we were fairly under-way, I lifted up the paddle to Dick, who now assigned to himself the double office of guiding the dug-out and keeping the torch trimmed. I was to look to the shooting; so placing my trusty rifle across my thighs, I sat alternately scanning both banks as we glided along. I shall never forget the romantic effect which was produced upon my mind during that wild excursion. The scenery of the river upon which we had launched our craft was at all times of a picturesque character: under the blaze of the pine-wood—its trees and rocks tinted with a vermilion hue, while the rippling flood below ran like molten gold—the effect was heightened to a degree of sublimity which could not have failed to impress the dullest imagination. It was the autumn season, too, and the foliage, which had not yet commenced falling, had assumed those rich varied tints so characteristic of the American *sylvia*—various hues of green and golden, and yellow and deep red, were exhibited upon the luxuriant frondage that lined the banks of the stream, and here and there drooped like embroidered curtains down to the water's edge. It was a scene of that wild beauty, that picturesque sublimity, which carries one to the contemplation of its Creator.

'Yonder!' muttered a voice, that roused me from my reverie. It was Dick who spoke; and in the dark shadow of the birch-bark I could see one of his arms extended, and pointing to the right bank. My eyes followed the direction indicated: they soon rested upon two small objects, that from the darker background of the foliage appeared bright and luminous. These objects were round, and close to each other; and at a glance I knew them to be the eyes of some animal, reflecting the light of our torch. My companion whispered me that they were the eyes of a deer. I took sight with my rifle, aiming as nearly as I could midway between the luminous spots. I pulled trigger, and my true piece cracked like a whip. The report was not loud enough to drown the noises that came back from the shore. There was a rustling of leaves, followed by a plunge, as of some body falling in the water. Dick turned the head of the dug-out, and paddled her up to the bank. The torch, blazing brightly, lit up the scene ahead of us, and our eyes were gratified by the sight of a fine buck, that had fallen dead into the river. He was about being drawn into the eddy of the current, but

Dick prevented this, and, seizing him by the antlers, soon deposited him safely in the bottom of the dug-out.

Our craft was once more headed down stream, and we scrutinised every winding of the banks in search of another pair of gleaming eyes. In less than half an hour these appeared, and we succeeded in killing a second long-tail—a doe—and dragged her also into the boat. Shortly after, a third was knocked over, which we found standing out in the river upon a small point of sand. This proved to be a young spike-buck, his horns not having as yet branched off into antlers. About a quarter of a mile further down, fourth deer was shot at, and missed, the dug-out having grazed suddenly against a rock just as I was pulling trigger, thus rendering my aim unsteady.

I need hardly say that this sport was extremely exciting; and we had got many miles from the post, without thinking either of the distance or the fact that we should be under the disagreeable necessity of paddling the old Flathead's canoe every inch of the way back again. Down stream it was all plain sailing; and Dick's duty was light enough, as it consisted merely in keeping the dug-out head foremost in the middle of the river. The current ran at the rate of three miles an hour, and therefore drifted us along with sufficient rapidity.

The first thing that suggested a return to either of us, was the fact that our pine-knots had run out: Dick had just piled the last of them in the fryingpan. At this moment, a noise sounded in our ears that caused us some feelings of alarm: it was the noise of falling water. It was not new to us, for, since leaving the post, we had passed the mouths of several small streams, that debouched into the one upon which we were, in most cases over a jumble of rocks, thus forming a series of noisy rapids. But that which we now heard was directly ahead of us, and must, thought we, be a rapid or fall of the stream itself; moreover, it appeared louder than any we had hitherto passed.

We lost but little time in conjectures. The first impulse of my companion, upon catching the sound, was to stop the progress of the dug-out, which in a few seconds he succeeded in doing; but by this time our torch had shewn us that there was a sharp turning in the river, with a long reach of smooth water below. The cascade, therefore, could not be in our stream, but in some tributary that fell into it near the bend. On seeing this, Dick turned his paddle, and permitted the dug-out once more to float with the current. The next moment we passed the mouth of a good-sized creek, whose waters, having just leaped a fall of several feet, ran into the river, covered with white froth and bubbles. We could see the fall at a little distance, through the branches of the trees; and as we swept on, its foaming sheet reflected the light of our torch like shining metal.

We had scarcely passed this point, when my attention was attracted by a pair of fiery orbs that glistened out of some low bushes upon the left bank of the river. I saw that they were the eyes of some animal, but what kind of animal I could not guess. I knew they were not the eyes of a deer. Their peculiar scintillation, their lesser size, the wide space between them—all convinced me they were not deer's eyes. Moreover, they moved at times, as if the head of the animal was carried about in irregular circles. This is never the case with the eyes of the deer, which either pass hurriedly from point to point, or remain with a fixed and steadfast gaze. I knew, therefore, it was no deer; but no matter what: it was some wild creature, and all are alike the game of the prairie-hunter. I took aim, and pulled trigger. While doing so, I heard the voice of my companion warning me, as I thought, not to fire. I wondered at this admonition, but it was then too late to heed it, for it had been uttered almost simultaneously with the report of my rifle.

I first looked to the bank, to witness the effect of my

shot. To my great surprise, the eyes were still there, gleaming from the bushes as brightly as ever! Had I missed my aim? It is true, the voice of my companion had somewhat disconcerted me; but I still believed that my bullet must have sped truly, as it had been delivered with a good aim. As I turned to Dick for an explanation, a new sound fell upon my ears that explained all, at the same time causing me no slight feeling of alarm. It was a sound not unlike that sometimes uttered by terrified swine, but still louder and more threatening. I knew it well—I knew it was the more of the grizzly bear.

Of all American animals, the grizzly bear is the most to be dreaded. Armed or unarmed, man is no match for him, and even the courageous hunter of these parts shuns the encounter. This was why my companion had admonished me not to fire. I thought I had missed: it was not so. My bullet had hit and stung the fierce brute to madness; and a quick cracking among the bushes was immediately followed by a heavy plunge: the bear was in the water.

"Good heavens, he's after us!" cried Dick in accents of alarm, at the same time propelling the dug-out with all his might. It proved true enough that the bear was after us, and the very first plunge had brought his nose almost up to the side of the canoe. However, a few well-directed strokes of the paddle set us in quick motion, and we were soon gliding rapidly down stream, followed by the enraged animal, that every now and then uttered one of his fierce snorts.

What rendered our situation a terrible one was, that we could not now see the bear, nor tell how far he might be from us. All to the rear of the canoe was of a pitchy darkness, in consequence of the screen of birch-bark. No object could be distinguished in that direction, and it was only by hearing him that we could tell he was still some yards off. The snorts, however, were more or less distinct, as heard amid the varying roar of the waterfall; and sometimes they seemed as if the snout from which they proceeded was close up to our stern. We knew that if he once laid his paw upon the canoe, we should either be sunk or compelled to leap out and swim for it. We knew, moreover, that such an event would be certain death to one of us at least. I need hardly affirm, that my companion used his paddle with all the energy of despair. I assisted him as much as was in my power with the but-end of my gun, which was empty: on account of the hurry and darkness, I had not attempted to reload it.

We had shot down stream for a hundred yards or so, and were about congratulating ourselves on the prospect of an escape from the bear, when a new object of dread presented itself to our terrified imaginations. This object was the sound of falling water; but not as before, coming from some tributary stream. No. It was a fall of the river upon which we were floating, and evidently only a very short distance below us! We were, in fact, within less than 100 yards of it. Our excitement in consequence of being pursued by the bear, as well as the fact that the sough of the cascade above still filled our ears, had prevented us from perceiving this new danger until we had approached it.

A shout of terror and warning from my companion seemed the echo of one I had myself uttered. Both of us understood the peril of our situation, and both, without speaking another word, set about attempting to stop the boat. We paddled with all our strength—he with the oar, while I used the flat butt of my rifle. We had succeeded in bringing her to a sort of equilibrium, and were in hopes of being able to force her toward the bank, when all at once we heard a heavy object strike against the stern. At the same moment, the bow rose up into the air, and a number of the burning pine-knots fell back into the bottom of the canoe. They still continued to blaze; and their

light now falling towards the stern, shewed us a fearful object. The bear had seized hold of the dug-out, and his fierce head and long curving claws were visible over the edge. Although the little craft danced about upon the water, and was likely to be turned keel upward, the animal shewed no intention of relaxing its hold; but, on the contrary, seemed every moment mounting higher into the canoe.

Our peril was now extreme. We knew it, and the knowledge half paralysed us. Both of us had started up, and for some moments half-sat, half-crouched, uncertain how to act. Should we use the paddles, and get the canoe ashore, it would only be to throw ourselves into the jaws of the bear. On the other hand, we could not remain as we were, for in a few seconds we should be drifted over the falls; and how high these were we knew not. We had never heard of them: they might be fifty feet—they might be a hundred. High enough they were, no doubt, to precipitate us into eternity. The prospect was appalling, and our thoughts ran rapidly. Quick action was required. I could think of no other than to lean sternward, and strike at the bear with my clubbed rifle. At the same time, I called upon my companion to paddle for the shore. We preferred, under all circumstances, risking the chances of a land-encounter with our grizzly antagonist.

I had succeeded in keeping the bear out of the canoe by several well-planted blows upon the snout; and Dick was equally successful in forcing the dug-out nearer to the bank, when a sharp crack reached my ears, followed by a terrified cry from my companion. I glanced suddenly round, to ascertain the cause of these demonstrations. Dick held in his hands a short round stick, which I recognised as the shaft of the paddle. The blade had snapped off, and was floating away on the surface.

We were now helpless. The *manège* of the canoe was no longer possible. Over the falls she must go! We thought of leaping out, but it was too late. We were almost upon the edge, and the black current that bore our craft along, would have carried our bodies with like velocity. We could not make a dozen strokes before we should be swept to the brink: it was too late. We both saw this; and each knew the feelings of the other, for we felt alike. Neither spoke; but, crouching down and holding the gunwales of the canoe, we awaited the awful moment. The bear seemed to have some apprehension as well; for, instead of continuing his endeavours to climb into the canoe, he contented himself with holding fast to the stern, evidently under some alarm. The torch still blazed, and the canoe was catching fire; perhaps this it was that alarmed the bear. The last circumstance gave us at the moment but little concern: the greater danger eclipsed the less. We had hardly noticed it, when we felt that we were going over. The canoe shot outward as if propelled by some projectile force; then came a loud crash, as though we had dropped upon a hard rock. Water, and spray, and froth were dashed over our bodies; and the next moment, to our surprise as well as delight, we felt ourselves still alive, and seated in the canoe, which was floating gently in still smooth water. It was quite dark, for the torch had been extinguished; but even in the darkness we could perceive the bear swimming and floundering near the boat. To our great satisfaction, we saw him heading for the shore, and widening the distance between himself and us with all the haste he could make. The unexpected precipitation over the falls had cooled his courage, if not his hostility.

Dick and I headed the canoe, now half full of water, for the opposite bank, which we contrived to reach by using the rifle and our hands for paddles. Here we made the little vessel fast to a tree, intending to leave it there, as we could not by any possibility get it back over the fall. Having hung our game out of reach of

the wolves, we turned our faces up stream, and, after a long and wearisome walk, succeeded in getting back to the post. Next morning, a party went down for the venison, with the intention also of carrying the canoe back over the fall. The craft, however, was found to be so much injured, that it would not hang together during the portage, and was therefore abandoned. This was no pleasant matter to me, for it afterwards cost me a considerable sum before I could square with the old Flathead for his worthless dug-out.

IS THE DIVINING-ROD A FALLACY?

The world has not yet decided whether the divining or dowsing rod—the *virgula divina*, the *baculus divisorius*—involves a fallacy or not. About seventeen years ago, in the old series of the Journal, the subject was touched upon; and recently, in tract of our Repository, relating to 'Cornish Mines and Miners,' the divining-rod again came under consideration. But the appearance of a pamphlet within the last few weeks, detailing experiments of a very curious kind, induces us to group such of the alleged facts as will place the reader in a right position for viewing the subject.

In the first place, then, what is the divining-rod? what does it mean? The divining or dowsing rod, we are told, is a twig of hazel which will enable a person to discover hidden veins of metal, to aid in mining; or hidden springs of water, to aid in well-boring. Some such belief has existed for many ages. There are allusions both by Ezekiel and Hosea to the practice of divination by means of rods or wands; and Hosea reproaches the Jews for their leaning to this belief. M. Thouvenel, in his *Mémoire Physique et Médicinal montrant des Rapports Evidents entre les Phénomènes de la Baguette divinatoire*, collected the records of 600 experiments relating to the divining-rod; and there can be no question that the belief was very generally diffused in the middle ages. Of course, no reader of Sir Walter Scott can forget the redoubtable Dousterswivel, in the *Antiquary*. He went into a little copse-thicket, 'and providing himself with a small twig of hazel terminating in a forked end, which he pronounced to possess the virtue proper for the experiment that he was about to exhibit: holding the forked ends of the wand each between a finger and thumb, and thus keeping the rod upright, he proceeded to pace the ruined aisles.' Proceeding with his experiment, 'turning this way and that way, as the agitation of the divining-rod seemed to increase or diminish, he advanced into the midst of a vacant and roofless enclosure, when the rod twisted itself, so as to point almost straight downwards.' Dousterswivel had previously asserted, "I will shew you dat it is possible, a vary possible, to discover de springe of water, and de little fountain hidden in de ground, without any mattock, or spade, or dig at all." And though there is very little doubt of the rascality of Dousterswivel in the discovery of the well, which excited 'the astonishment of the ladies, Mr Blattergowl, and Sir Arthur, the surprise of Lovel, and the confusion of the incredulous antiquary,' yet the attempt itself exhibited a tolerable spread of the belief in question.

The late Dr Herbert Mayo wrote seven letters *On the Truths contained in Popular Superstitions*, which were published in *Blackwood's Magazine* in 1847. He afterwards collected and expanded them, and published them in a small volume in Germany; and in 1851 he published a still further amplified edition in London and Edinburgh. The first of these letters relates to the divining-rod. Dr Mayo begins by saying, in reference to the Dousterswivel affair, that he believes there is 'something in it,' although the man himself may have been a charlatan. He states that there is a popular belief in Cornwall, that there is one person in about every forty endowed with the faculty of discovering subterranean stores of metal by means of the divining-

rod; and the following is described as the mode of proceeding:—A hazel-twigs is cut, just below where it forks; it is stripped of its leaves, and then each branch is cut to about a foot in length, leaving a stump three inches long. The hazel-fork thus made is to be held by the branches, one in each hand, the stump or point projecting straight forwards; the arms of the experimenter hang by his sides, but the elbows being bent at a right angle, the forearms are advanced horizontally. The hands are held eight or ten inches apart, the knuckles down, and the thumbs outwards; the ends of the branches appear between the roots of the thumbs and forefingers. The experimenter walks over the ground he intends exploring, in the full expectation that, if he possess the mystic gift, as soon as he passes over a vein of metal, or an underground spring, the hazel-fork will begin to move spontaneously in his hands, rising or falling, as the case may be.

Such being the magic wand, and the mode of using it, Dr Mayo narrates how his attention became directed to the subject. In 1806, Mrs Colonel Beaumont, of Cheltenham, is said to have had this power to a remarkable degree, and to have exhibited it to a lady resident at Southampton; this lady found that she herself, in particular states of health, possessed the power. Mr Fairholm, who in 1843 communicated the facts to Dr Mayo, had himself seen this lady use the divining-rod, formed not only of hazel-twigs, but also one made of copper and iron wire. Dr Mayo was incited by this narration to read M. de Tristan's *Recherches sur quelques Effluves Terrestres*, in which divining-rod experiments are described in great number; he coupled these experiments with the singular facts and reasonings contained in Reichenbach's recent work respecting the Od force; and he drew inferences therefrom favourable to the truth of the dowsing theory. This was in the *Blackwood* article; but in the second, or German edition, published in 1850, he was able to adduce some remarkable facts, which we will state simply in the following paragraph.

In the spring of 1847, being then at Weilbach, in Nassau, Dr Mayo thought the spot, containing much water beneath it, favourable for the prosecution of experiment. He selected a tall, thin, pale, white-haired young man, Edward Seibold, the son of the proprietor of the bathing establishment, to walk up and down, holding in his right hand three pieces of silver, and one handle of a hazel divining-rod; while the handle which he held in his left hand was covered with thin silk—an arrangement towards which Dr Mayo had been led in the course of his reading on the subject. The youth had scarcely made five steps, when the point of the fork began to ascend; he laughed with astonishment at the result, and said that he experienced a tickling or thrilling sensation in his hands. Continuing to walk up and down, the fork in his hands described a complete circle, then another, and so on as long as he continued to walk. The experiment was repeated with similar success several times within a month. At subsequent periods, when the youth's health was somewhat impaired, the effects were either partially obtained only, or not obtained at all. Dr Mayo, after expressing his opinion that the results were genuine so far as the youth's honesty was concerned, goes on to remark: 'There were two younger brothers of Edward Seibold, and a bath-maid, and my own man, in whose hands the rod played new pranks. When these parties walked forward, the instrument ascended or moved normally; but when, by my desire, they walked backwards, the instrument immediately went the other way. I should observe that, in the hands of Edward Seibold, the instrument moved in the same direction whether he walked forwards or backwards; and I have mentioned that it described in his hands a complete circle. But with the four parties I have just been speaking of, the motion of the fork

was always limited in extent.' Dr Mayo made further experiments with all these persons; but they were unsatisfactory so far as the obtainment of any regular or intelligible results, though he acquires the parties of any wish to deceive. In the third edition of his letters, published in London and in Edinburgh in 1851, Dr Mayo puts in a postscript to state that, being again at Weilbach in May of that year, he again experimented with Edward Seebold, who had now become a well-grown, healthy young man; but the power of using the divining-rod seemed to have wholly left him.

Thus much, then, for the information conveyed in Dr Mayo's letters, which, so far as they are conclusive on any point, refer to the divination of springs of water rather than of veins of metal. We now come to a small shilling pamphlet, lately published in London, with a very long title, of which the significant part is, *A Narrative of Practical Experiments, proving to Demonstration the Discovery of Water, Coal, and Minerals in the Earth, by means of the Dowsing-fork or Divining-rod*; by Francis Phippen. The motto of the book is a Shakspearian aphorism—

There are more things in heaven and earth
Than are dreamt of in our philosophy—

which we may safely accept, without prejudicing ourselves either for or against the divining-rod.

Mr Phippen states that, being on a visit, in 1844, to his brother, Mr Arthur Phippen, a surgeon at Wedmore, in Somersetshire, circumstances led him to investigate narrowly this curious subject; and that the result of the investigation appeared in the form of a letter, published in the *Morning Chronicle* and the *Morning Advertiser* of November 15, 1844. This letter details the proceedings of two dowsers, named Mapstone and Adams. Mapstone's exploit was as follows:—Mr Edwards, of Sand, near Wedmore, had a farm situated so high up on an eminence that great difficulty was met with in finding water. When just about to sink a well, he learned that Mapstone was dowsing for water on a neighbouring estate: he had hitherto laughed at the plan as an absurdity, but he allowed Mapstone to make a trial of his luck. This man had not proceeded far with his walk, when the dowsing-fork began to move: he stopped, and declared that water would be found within twenty feet of the surface at that spot. Two labourers were immediately employed to dig a well there, and in three days they came to a copious spring of water at a depth of nineteen feet. Mr Edwards thereupon became believer in the dowsing-rod.

But the dowsing of Charles Adams was, it appears, much more extensive and remarkable. He was a man at that time forty-three years of age, and had the fame of having been accessory to the sinking of nearly 100 wells. He resided at Rowberrow, in Somersetshire; but on one occasion he came to Wedmore by invitation, to dowse on the premises of Mr Arthur Phippen, the surgeon. He first went to a hedge, and cut a forked white-thorn twig, about eighteen inches long in each stem. He then entered the garden, and walked about with the fork held before him in the usual way. He had walked but a few paces, when the repulsion of the fork pointed out to him that there was a spring of water underneath; he traced the same symptoms to a considerable distance east and west, until he arrived over a covered well, of the existence of which he was totally ignorant. The fork, we are told, was so much agitated at this spot, that it could not be kept still. Adams next accomplished afeat in metal divination. On the floor of a stone-kitchen three hats were placed, crown upwards, and under one of them, without Adams's knowledge, three silver spoons were placed. When he walked in the kitchen, between the hats, the movement of the fork indicated to him the hat under which the spoons were placed. In a third experiment,

a diamond pin was placed under one hat, three silver spoons under a second, and a gold watch, chain, and seals under a third; the fork was scarcely at all affected over this last-named treasure, much more so over the silver spoons, but most over the diamond pin. Whether such a result was expected, we are not told. Another experiment was made on the premises of the Rev. Mr Foster, near Sodbury, in Gloucestershire. Adams was sent for by that gentleman to dowse for water at a spot where a well had been unprofitably sunk to a depth of sixty feet, and he speedily declared his opinion that there was a spring at a depth of about twenty feet, and six feet from the wall of the well; a search was made in the direction indicated, and a copious supply of water found. Another experimenter was a man seventy years old, named Thomas Tyler, of Latchem, a village near Wedmore; he dowse for water on the estate of Mr Barrow, one of the magistrates of the district, and discovered a spring.

The announcement of all these achievements as positive facts, and the mention, in the pages of two daily newspapers, of so many respectable persons to whom reference might easily be made, appear to have attracted the notice of many readers, who applied for further information. Mr Phippen published a letter, which was addressed to his brother in March 1846 by Mr James G. Marshall of Headingly, near Leeds, a partner in the great flax-spinning firm. Mr Marshall asks whether Mr Arthur Phippen can corroborate the newspaper statements; whether Adams is really gifted with the alleged power; whether he is a truthful and honest man; and whether his skill could manifest itself as well in Yorkshire as in Somersetshire. The reply having been satisfactory, so far as Mr A. Phippen could conscientiously make it, Mr Marshall made an engagement with Adams to come down to Leeds, to dowse for water at his private residence at Headingly. The experiments were made in presence of a large number of persons; and some months afterwards, Mr A. Phippen requested Mr Marshall to favour him with a written account of what had been done. Mr Marshall's reply, as given in the pamphlet, is worthy of notice, on account of the commercial and social position of the writer. After stating that a good spring of water was found at the spot, and about the depth indicated by Adams, Mr Marshall proceeds to state:—'I tested Adams by taking him over some deep borings for water at our manufactory, where he could have no possible guide from anything he could see; and he certainly pointed out nearly the position of the springs, as shown by the produce of the bore-holes—some being much more productive than others. The same was the result at another manufactory, where Adams could have no guide from what he saw, and could not have got information otherwise. I put him also to a severe test, and which, I think, if well managed, ought to be very conclusive. After he had pointed out, in the usual manner, the position of a spring, I had him completely blindfolded, and after being walked about in various directions, reconducted over the spot where he had pointed out a spring: now, in the first experiment of the sort I made, he failed to point out the same spot, but afterwards he came exceedingly near. When asked why he failed at first, he said simply, that he was confused by being blindfolded, not being used to it. I would remark, that as he always lays down a line of spring, not point merely, it is easy to reconduct him over a portion of ground different from the first pointed out, yet still in the line of the spring, so as to avoid the chance of any guide to guessing.' Mr Marshall further states, that he found copper and iron wire to succeed nearly as well as the hazel-twigs; but he makes a pointed reference to Adams's failure in an attempt to repeat the experiment with the three hats, although the rod itself appeared to turn strongly.

This is the substance of Mr Marshall's reply, and

with it we take leave of Mr F. Phippen's pamphlet. And now, what are we to think of all this? Some persons will settle the whole affair by declaring that Sebold, Adams, and the others, were deceivers, of the same class as old Dousterswivel, purposely moving the dowsing-rod in particular ways. Others will view it mechanically, by stating, that when a person is moving forward, he would, without knowing it, tend to close the prongs of the fork a little, and to open them a little when walking backward, by the natural movement of the hands and arms; and that these slight changes might tend to make the but-end of the fork turn upward or downward. Others, founded on the known existence of electric agency in metallic veins, and the possible existence of electric agency in running streams, and the known laws of electro-magnetism, as developed by Oersted, and the laws of the Od force, as supposed to be developed by Reichenbach, will assert that these electric or other currents affect the free end of the rod, and cause the movement. A fourth class, more prone to spiritual than material theories, will bring to bear upon the phenomena some such speculations as those which have so often been put forth by Mrs Crowe.

The reader will see that we make no attempt at solving the riddle. We simply say, that it is worthy of attention; and our object is, by pointing out four possible modes of speculation, to induce the reader to look sharply about him, if he should decide on making the very easy experiment for himself. There is nothing obviously ridiculous in the experiment, and no one need be ashamed of making it, either in a metalliferous or in a watery district of country; but let him watch with a clear eye and a clear head, and not draw inferences too hastily.

[In the *Quarterly Review* for September is a cleverly written article on Electro-Biology and Mesmerism, in which the facts of these so-called sciences are to a certain extent admitted, but attributed to the effect of dominant impressions on the mind, operating unconsciously. The writer in this manner explains the facts connected with the divining-rod. That 'expectant attention' is the cause of the movement, has been, in his opinion, proved by the entire failure of the experiments when the experimenter is left in ignorance or blindfolded. The whole of this article is well worthy of attention, as it shews pretty clearly that some of our late marvels at least demonstrate a new and most curious province of our mental system.—ED.]

A PEEP INTO AN ITALIAN INTERIOR.

FOURTH ARTICLE.

It is Carnival-time, but only the name remains to mark the period intervening between Christmas and Lent; all the masquerades and revelries associated with the season are now suspended. Since the revolution of 1848-49, masks have been prohibited, from the facility these disguises afforded for holding political meetings, and making plots against the government; the zest with which all ranks used to join in this amusement, renders its interdiction a serious deprivation, and does not augment the good-will with which the enactments of the papal authorities are now regarded.

The balls at the Casino, which formerly enlivened the Carnival, have likewise declined, from the unwillingness of the natives to mix in any degree with the Austrian garrison, the general and officers of which were of course invited to be present. Even those families of Codini, whose known retrograde principles rendered them well disposed towards the *Barbari*, were afraid of braving public opinion by appearing to be on good terms with the supporters of their pontiff; so that the Austrian officers, at the first public ball to which

they repaired with all their proverbial eagerness for the dance, found a large and handsome ball-room, brilliant lights and excellent music, but, alas, to their great chagrin, nought but empty benches to receive them!

The theatre is now the only neutral ground where all assemble; but even there the line of demarcation is very jealously observed, and it is only in one or two boxes of native families that the obnoxious white uniform is ever discerned. To an Italian, the theatre is home, senate, forum, academy—all and everything in existence; he does not go there half so much for the sake of the performance, as to fill up four or five hours of his daily existence, to see his friends, to hear what is going forward, to look at any strange face that may attract his notice, to contemplate from his stall near the orchestra the different flirtations carried on in the boxes above and around him, and to take his own share, perchance, in the numerous little comedies of real life that are here nightly performed, while the mock-dramas on the stage form but a minor part of the interests so curiously concentrated in this building.

There was but one theatre in the town, a very pretty structure, much larger and handsomer than would be met with in a provincial town in England; and all its accompaniments of dress, scenery, and orchestra, on the same scale of superiority. Either operas or prosopieces were given, according to the seasons of the year and established custom. In the autumn, comedies and dramas were performed from September till the beginning of Advent, when theatrical entertainments were suspended. From Christmas till the end of Carnival there was the Opera, succeeded during Lent by a dreary time of mortification. After Easter, the public spirits were sustained by the speedy prospect of a good spring campaign; and great excitement always prevailed as to the operas to be represented, the names of the singers engaged by the manager, whether the municipality, by assisting his funds, would enable him to give a ballet; and so forth.

Of course, none of the great vocalists, whom the north seems to have monopolised, were ever heard, although this theatre could often claim the distinction of having been the nursery in which they were trained, and their latent powers first called forth. The government, impoverished as it is, with gaunt distress assailing it in the shape of houseless poor, decaying buildings, and an exhausted treasury, never hesitates to support and promote theatrical entertainments. The theatre, to an Italian population, is like a sweet-cake to a fretful child: it serves to stop its crying, and divert its attention for a moment, and the intelligent nurse is satisfied. It is a safe diversion: they cannot conspire or talk politics, for spies, as they well know, are largely mingled with the audience, and every movement or knot of whisperers would instantly be noted. The pieces performed are carefully selected, and none with any allusion to freedom, revolt, or anything of the sort permitted; for instance, a chorus containing the word *libertà* would be suppressed, or another word of different signification substituted for it. Auber's *Mutia di Portici* is not allowed to be represented, because its hero, Masaniello, is the leader of a popular insurrection; nor Rossini's *Guglielmo Tell*, for similar reasons; besides many others that it would take too much space to enumerate. Verdi's *Gonani* is no longer given, although in the early days of Pius IX., when, after granting the amnesty to all political offenders, he was hailed as the regenerator of Italy, the scene in which Charles V. pardons the

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conspirators, and exclaims: 'Perdono a tutti,' was received in every theatre of Italy with a frenzy of enthusiasm that must have been perfectly electrifying. It has often been described to me how the whole audience used to sit hushed in reverential awe, till the expected words had been pronounced, when, as with one voice and impulse, they would break forth into a wild clamour of applause, which had in it something inexplicably thrilling and sublime. But all this has passed away; the brief glory, the dream of independence, the unwonted exultation, with its dark sequel of ingratitude and treachery, of opportunities neglected, and of powers misapplied. Deeper than ever shrouded in the dark night of oppression appear the people whose day-star rose with such fair promise, and heavier weigh the chains again rivetted upon them! Yet stay, for I have wandered from my theme, which was of the garlands twined around their feathers, and of the gay strains and idle talk beneath which the patriot's sigh is often stifled. So let us go back to the interior of the theatre, if you please, and take a survey of its various occupants.

It is seven o'clock, and the house is beginning to fill: clerks, shopkeepers, spies, artisans and their wives, Austrian soldiers, are taking their places in the pit, and the orchestra are tuning their instruments. As the overture begins, the frequenters of the stalls saunter into their usual places. Of these, the majority are the officers of the garrison, who always make a great clanking of their long broadswords, and always twirl their mustaches. The boxes, too, are rapidly becoming tenanted. Every family has its own, and the scene becomes more animated as one bright well-known face after another appears in her accustomed seat. The husband, in all well-regulated establishments, accompanies his wife to the theatre, and remains in the box until some visitor appears, which is generally the case as soon as she has been seen to enter. He then takes his leave, and does not trouble her with his presence till the close of the evening, to escort her home; as it would be considered very insipid to be seen sitting long together, and infallibly he looked upon as the result of the lady's want of attraction, or the lack of resources on his side to fill up the time. Released from his attendance, therefore, as soon as the welcome sound is heard of the curtain at the door being drawn aside to give admission to a visitor, he hastens in his turn to commence a round of calls to those ladies especially whose houses, when the theatre is not open, he is most in the habit of frequenting. Thus the leading belles gather round them their usual *società*, and they talk and laugh, as is their wont, without much regard to the performance, except at any favourite air or duet, when, as if by magic, the whole audience is silent and breathless with attention. The loquacity prevalent is sometimes annoying to the pit and gallery, particularly in a prose piece, when the actors are scarcely audible from the hum of patrician voices, and an angry 'Zitto, zitto!' gives an indication of popular feeling. But even this departure from the usual orderly demeanour of the people is very rare. It would be difficult to find more decorum and correctness of deportment than they present: there is no bad language, no quarrelling, no drinking—not even any popping of ginger-beer, or fragrance of orange-peel.

The same operas are repeated night after night without intermission for weeks. In the course of a season lasting nearly two months, seldom more than two operas are given, the expense of getting up a greater variety being of course one reason; while the taste of the Italians themselves leads also to their preferring the frequent repetition of their favourite composers, rather than a constant change, which, in music, they declare is a drawback to enjoyment.

The price of admission during the Carnival appears ridiculously low, the ticket being only fifteen bajocchi—equal to 7½d.; and a subscription for the season can

be taken out for fifteen pauls—6s. 9d., which insures admission for every night, excepting benefits. In the spring, as there is a ballet besides the opera, the price is doubled; in the autumn, when the *commedia*—the national term for dramatic representations—is given, it is only a paul—5d.

The boxes, as I said before, are all private property; each is partitioned off from the other, as at the Italian Opera in London. They are fitted up on either side with narrow sofas, on which the societas lounge and gossip at their ease. Amongst their fair owners, the respective number of visitors is a great subject of heart-burning, it being an enviable distinction to have one's box constantly filled. As regards the toilet of the ladies, there is but little display: in winter, they are scarcely more dressed than for a walking out, many of them even retaining their bonnets; and on account of the extreme cold it is often customary to send *chauffe-pieds* to keep their feet warm during the performance. The house is dimly lighted to English eyes, accustomed to the flaring gas of our own theatres, for there is only a large chandelier from the centre, and the foot-lights; but Italians are not fond of a strong glare, and resorting thither so constantly as they do, a greater degree of brilliancy would prove fatiguing to the sight. The existing arrangement permits them to see and to be seen, and with this they are perfectly satisfied; and thus they go on, every night of the week while the season lasts—excepting Mondays, when an inferior singer takes the prima donna's place, and Fridays, when the theatre is closed—gossiping, trifling, complaining, but still led there by an irresistible impulse, a void in domestic life which, so long as English hearths and homes maintain their proud supremacy, will happily remain an unsolved mystery to us.

Amongst the few remaining of the popular diversions that used to be permitted in Carnival, are the public *tombole* or raffles, held on Sundays and Feste in the principal square of the town, to which the lowest of the people eagerly resort. No drunkenness or fighting is ever seen, although amongst that vast crowd of priests, peasants, Jews, young caffé-loungers, shopkeepers and their wives, grisettes and gendarmes, at least one or two thousand of the very dregs of the population are assembled, all intent upon the game, which is nearly allied to one I remember as a child, called *Lotto*, which we used to play at for sugar-plums.

On the balcony of the government palace, in a conspicuous position, is placed a wheel containing the numbers, ranging from one to ninety, which are drawn from it by a child blindfolded, and proclaimed aloud as they successively appear. The players, on payment of eleven bajocchi—5½d.—are each furnished with a card, containing three rows of figures variously transposed, so that no two cards are alike. Whoever has a corresponding number on his card to the one called out, marks it; and he who first can boast of an unbroken row of five numbers thus filled up, is the winner, and shouts out 'Tombola fatta!' in a voice that makes the *welkin* ring, and flings his hat, if he be so fortunate as to possess one, into the air.

I do not believe the amount of the prize depends on the number of persons engaged in the game; the value of the tombola to be played for is always known beforehand; some are of fifty, a hundred, or even more dollars, and the fascination of this pastime for the populace may therefore easily be imagined. Those who are too poor to afford the outlay necessary for a card, go into partnership with others, and often four or five are jointly interested in the purchase.

The scene during the drawing of the numbers is very picturesque, and is well set off by the old piazza, with its quaint irregular buildings leading at the upper end by a semicircular ascent to the church of the

Dominicans, in front of which is stationed the colossal statue of one of the popes—Clement XII., I think—in his pontifical robes and triple crown, forming the centre of a group of market-women, seated beside the baskets of fruit and vegetables they daily bring hither for sale. A little further down the Austrian band is stationed: it has been playing before the commencement of the game as only Austrian military bands can play; and the intoxicating strains have wrought still higher the general expectation and ferment. Every balcony and window are tenanted by anxious players and lookers-on, for gentle and simple are equally ardent and absorbed; while the whole space beneath is filled up by the eager, clamorous crowd, watching their own or their neighbours' progress, as if life and death were staked on the result.

Handsome peasant-girls in gay holiday attire, saturnine, calculating priests, laughing milliners' apprentices, sturdy fishermen, tattered women, beggars in every stage of misery—here are groups that a painter would long to delineate, for, discernible upon all, stamped as if with nature's signet, is the impress of beauty and of race.

The clear wintry sun shines on those upturned heads, and the blue unclouded sky forms a brilliant background to features of so much fire and animation, such coal-black kindling eyes, and figures of so much artistic outline and perfection, that the very originals of some of Raphael's master-pieces seem again presented to our view, and we recognise faces whose lineaments are familiar to us in the *Sacrifice at Lystra*, or the *Preaching at Athens*.

The national taste for gambling—so strikingly illustrated to the most casual observer in the excitement produced by the tombola—is still more perniciously fostered by the system of the government lottery, the existence of which produces the most baneful influence upon the country. As in the tombola, the numbers range from one to ninety, of which five are drawn every week at Rome. What is termed playing in the lottery, consists in staking sums, varying in amount at the pleasure of the player, upon one or more numbers, which, if they come up, yield prizes proportionate to the sum hazarded and the manner of the venture. For instance, if a person decides upon three numbers—say 19, 27, 60—and plays upon what is called the *terzo secco*, he receives no profit unless all three are drawn; but then, in case he is successful, his gain is infinitely more considerable than if he had stipulated for a prize should only two of his numbers appear. A quinterno—that is, for five numbers played on the same ticket to come up together—is very rare; yet there are not wanting instances of this extraordinary good-fortune, which are eagerly remembered, and have been fatal lures to many an infatuated player.

The *botteghini*, or lottery-shops, are constantly filled with the most idle and miserable of the population, who come to risk the few bajocchi they have stolen from the urgent wants of their families upon the numbers they may have dreamed of, or seen written upon a wall, or picked up on a slip of paper in the street, or that have been given them by some person supposed to be skilled in this species of divination. But this dangerous propensity is not confined to the lower classes—all seem to play with reckless infatuation: the rich prelate, with the aim of still further augmenting his hoarded wealth; the speculative trader, to gratify his love of hazard and excitement; and the poor working-man, with the more simple motive of relieving the sharp penury of the moment, or realising some vision of prosperity. The young artist ventures his quarter of a dollar every week on the terzo selected by his lady-love, in the hope of a prize sufficient to enable him to gratify his dream of foreign travel and excitement; the servant-girl has faith in the numbers given her by a white-bearded Capuchin, and plays them in

the fond delusion of winning a dowry and a husband; and that worn and wretched-looking woman, with three or four tattered children at her heels, and a puny swaddled infant in her arms, gaunt famine stamped on every feature, comes to stake five or six copper coins on the numbers she has dreamed her dead husband brought her in the night, and goes back to the damp cellar she inhabits, to indulge in restless anticipations of plenty and success.

The prevalence of the lottery tends to keep up superstition of the most debasing kind: omens, dreams, lucky or unlucky days, are noted, and the corresponding numbers eagerly sought for in books published for the purpose, a tattered copy of which is sure to be possessed by any family who can boast of a member sufficiently a scholar to decipher it. If a bat flies at a window, the number analogous to this portent is looked out and played; if a favourite dish is dreamed of, the cabalistic volume is again consulted. On occasion of a criminal being executed, half the town plays numbers corresponding to the event itself, the culprit's age, and the nature of his crime.

Another popular method of invoking fortune is to consult priests and friars; amongst the latter, the Capuchins enjoy the greatest reputation for the success of their predictions. The most singular feature in the proceeding is, that as the clergy are forbidden to give numbers, the letter of this prohibition is very skilfully eluded by no allusion being made to the subject, but the priest, for example, tells a story in which he brings in some striking circumstance, having, as he well knows, a direct reference to the dream-book, which is consulted accordingly.

It is altogether a grievous evil—a plague-spot extending far and wide. Many families, from comparative affluence, have been reduced to beggary by the indulgence of this passion. Even those who gain prizes appear to reap no lasting benefit from success; and amidst all the wonderful stories related of people being unexpectedly enriched by winning a large prize, I cannot at this moment remember one instance in which any permanent good has resulted from the lottery. Unfortunately, as it is a government monopoly, and yielding a large revenue, in the existing order of things there is no ground to hope for its suppression.

I have digressed again from the Carnival, and perpetually find myself painting in sombre colours, when I would fain impart a little light and liveliness to my picture. The truth is, that I have little of gaiety to record, for it must not be overlooked that I am writing about a country under the blight of an armed foreign intervention, and kept in control by the Austrian discipline of the stick. The only parties I remember during the so-called gay season, were weekly evening reunions at the residence of one of the foreign consuls, where the lady of the house, a charming and gifted Parisian, drew together forty or fifty of the leading people of the place. It required the utmost effort of her amiability and liveliness, however, to accomplish this, for all spirit and wish for enjoyment seem to have forsaken the Italians, excepting their constancy to the theatre, which they cling to with the tenacity of old associations.

In these small parties, all the amiable features of the Italian nobility were brought to light—their freedom from affection or ostentatious pride, their perfect good-breeding, and absence of invidious comparisons or vying with each other—points in which I fear the society of a provincial town in England, notwithstanding our boasted intellectual advantages, would be lamentably inferior. The ladies dressed simply, but almost invariably in good taste; and, what was much to their credit, they whose circumstances would have enabled them to outshine the rest, never attempted any display: those, on the other hand, who were known to have very limited resources, made no struggles to

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appear rich, and had no feeble attempts at splendour, no incongruous putting together of faded flowers and Roman pearls—which, by the by, are carefully eschewed in the land of their nativity—or tarnished feathers. A most graceful example of delicacy towards the feelings of such as were in restricted circumstances was set by the hostess, who, although belonging to one of the first and wealthiest families of France, and possessing a wardrobe stocked with all the novelties of Paris, always appeared in the same dress, without any ornaments of value; and amiable as she was to all her guests, she yet peculiarly devoted herself to those from whom she could receive no attention or hospitality in return.

Amongst the most regular in coming every week, were a young couple whose situation excited universal sympathy. The contessa was the daughter of the last male representative of a very old but impoverished family, and was married to a native of Lombardy, but had been pursued by a series of misfortunes, which ended in the ruin and exile of her husband. Compelled to return with him to her own country in the utmost poverty, she was everywhere treated with as much consideration as if the wealth of Croesus was at her disposal. No one looked down upon her, though it was known she kept but one servant-girl, and always ironed her husband's shirts; and none of the ladies fancied it derogatory to dance with the poor refugee who gave lessons in drawing and mathematics, and was at his wit's end to provide a maintenance for his young wife and child. Evidently their poverty was no crime and no disgrace.

The style of these parties was perfectly simple and inexpensive. There was no supper, no constant eating and drinking, no incessant jingling of trays and glasses, or adjournment to the refreshment-room. A tea-table, presided over by the hostess herself, or one of the ladies present, formed the great centre of attraction: people gathered in groups round it, not formally arranged, but some sitting, others standing—*les petits jeans*, the adolescent beaux, making themselves useful, and handing the tea, in lieu of the attendance of servants, which, as tending to formality, was as much as possible dispensed with. This, with ices handed round once or twice later in the evening, was considered ample for the refreshment of the company, who were quite delighted with the *trattamento*, as they termed it, and enjoyed their ices as children would do any particular treat. On ordinary occasions, the fashion of the natives was followed in this house; no refreshments at all being given but a little eau sucre.

The amusements of the evening consisted of dancing, varied by one or two vocal pieces from some of the persons present, who, accompanied on the piano by a master, sang magnificently, as Italian amateurs always do—since, unless especially gifted both as to ear and voice, they never cultivate the art; and for this reason, though less pretty singing is heard than in England, one escapes the infliction of much that is bad. The dancing was much as it is everywhere else—quadrilles, waltzes, polkas, and the cotillon, but carried on with unaffected spirit and pleasure. The young men, I especially remarked, did not enjoy that happy immunity from terpsichorean labours which, amongst us, they so much covet; and if one of the *gioventù* would fain have indulged in a sentimental meditation on a sofa, instead of joining in the dance, he was presently rebuked by two or three elderly gentlemen of the old school, who, after inveighing against the degeneracy of the present age, sent him humbled to seek a partner. A young Tuscan marchese, fresh from Florence, where probably he had been perverted by intercourse with British youths, was looked upon quite as a dangerous profligate, for declining to dance quadrilles on the plea that they were *troppo papavero*—that is, too poppy-like, too narcotic for his taste.

This, however, was the only exception to the general characteristics of good-humour and amiability which prevailed, and never flagged, till the end of the cotillon intimated that it was time to think of breaking up. When the night was fine, the most of the company walked, for the distances were not great enough, and the streets too steep, to render a carriage necessary or agreeable. Nobody ever seemed tired or cross; and as all went away in detachments, the sound of their talking and laughing could be heard at a considerable distance, and was the best tribute that could be paid to the elegant simplicity and kindness of their entertainers.

The only opportunity afforded me of seeing the society of Ancona displayed in all its ceremony and state, was on the evening of Shrove-Tuesday, the last day of Carnival, when one of the oldest and richest noble families gave a grand supper, according to established usage for many years. Then, indeed, all the pomp of by-gone times was revived, and it was like a scene out of an old play to be met on the stairs by servants in state-liveries bearing huge waxen torches, and ushered into the great hall, where stood the dais or raised canopy, denoting the former dignity of the house as feudal princes, with the arms and quarterings emblazoned on hangings of scarlet velvet. From thence one passed through successive rooms, all brilliantly lighted, into the saloon, at the door of which the two younger sons of the family, Don Carlo and Don Girolamo, in the absence of their eldest brother the principe, and supported by several of the *amici di casa*, with deep bows performed the first part of the duties of reception. At the further end of this apartment was their mother, the principessa, in black velvet and diamonds, who, on hearing the names announced, would, if the new-comer was a lady, advance a few steps to meet her with a dignity that was peculiarly her own, and, taking her hand, conducted her to the divan which ran round three sides of the room, whereon a formidable row of silent figures, arrayed in brocaded silks and jewels, were deposited. Then, with a prolonged courtesy, which was in its turn acknowledged by a ceremoniousness of demeanour apparently looked upon as appropriate to the occasion, the stately old lady would return to her post. The men, on their entrance, advanced to where she stood, and bowed profoundly, followed by a circular reverence to the fair automatas stationed around, after which they backed out of the circle, and took their places in the ranks that filled the anteroom and doorways.

It was amusing enough to watch for awhile, and to speculate whether it was their fine clothes and their diamonds, or traditional ideas of etiquette, which had benumbed the whole assemblage, who for the most part were the same accustomed to meet on such friendly terms at the simple parties already described; when a great sensation was excited on the approach of the Cardinal —, a near relation of the principessa, spending a few days in his native city, on his way to the legation to which he was appointed. The sons, with the intimate friends, hastened to the head of the staircase, while the principessa went as far as the first drawing-room to receive him. When he entered the saloon, she alone walked at his side, the rest, with two or three priests he had brought in his train, his secretary, chaplain, and so forth, flocking behind. All the ladies stood up at his coming, as if he had been a royal personage, nor did they resume their seats until he was placed in an arm-chair, beside which his cousin stationed herself.

About ten o'clock, the doors opening into the supper-room were thrown open; and as the cardinal led the way, the ladies next, arm in arm, the men following *en masse*, a really brilliant spectacle presented itself. The room was large and lofty; the walls covered with crimson brocade, as also the gilded high-backed chairs and sofas; chandeliers hung from the richly-painted

ceiling; other lights were reflected from sconces at the sides, and three or four large tables glittered with massive candelabra. The supper was not laid out as in England—not even fruit and flowers appeared upon the tables, which were spread as if for dinner, with a profusion of plate, valuable old china, and exquisite damask linen.

When the guests were seated, the gray-headed servants brought in large dishes of macaroni, dressed with gravy and spices, which were placed on a sideboard, and served out—the young principi and the ever-faithful friends themselves handing the plates, which the servants stood by in readiness to change. Such an endless variety of dishes followed, all brought in and distributed in the same manner, that many have escaped my recollection: boiled fish, of a quality much prized; *galantines* of turkey and tongue; *vol-au-vents*; vegetables in forms and variously prepared; ornamented hams; turkeys stuffed with truffles; chickens *en mayonnaise*; salads of lobster—in fact, everything that is usual at suppers, and all in greater profusion, excepting sweets, of which there was only one kind. Towards the close, various kinds of ice were brought in, besides bonbons and cakes of different kinds; but no fruit, it not being considered indispensable to have gigantic apples and pears or hard pine-apples to grace a supper-table. Champagne, and every other sort of wine usual on such occasions, were repeatedly handed round, but, I remarked, scarcely tasted by the ladies; for temperate as are the men of Italy, the women surpass them, rarely being prevailed upon to touch anything but their own country wine, mixed with water.

As soon as the repast commenced, the rigid gravity previously maintained was gradually laid aside, a genial influence evidently diffused itself over all. The good things so liberally provided were really enjoyed, and thoroughly done justice to: many people had not dined that day, on purpose to have a good appetite for the evening—they said so with a simplicity that was very pleasant. There was not much conversation, but a great deal of good-humour, and many pleasantries on the part of the serving-gentlemen, who, in the pauses, stood about with plates in their hands, eating, as happily as possible, their own share of what they had assisted in dispensing. They all said Lent was coming on too fast not to make the most of the present moment; and certainly they were as good as their word. The cardinal gave his acquiescence to this opinion by a jovial laugh, and leaning back complacently in his chair, stretched out his legs, resplendent in their scarlet stockings, with an appearance of intense enjoyment.

As the hour drew on to twelve, an adjournment to the saloon was proposed, when coffee was brought in, and soon afterwards the *eminensissimo* gave the signal for departure. The same formalities were observed on his exit as attended his appearance, and he was accompanied down the stairs to his carriage by his young relatives and the other gentlemen who had received him, carrying silver candlesticks, in addition to the servants, who bore flambeaux. After he had gone, the guests rapidly dispersed, and went away cheerful and satisfied, to commence on the morrow the abstinence which, in all conscientious families, was rigidly practised during Lent.

On our way home, we passed many houses where suppers were still going on, for the custom of thus celebrating the last night of Carnival is universal; and, from the patrician banquet I have described, down to the humblest artisan or shopkeeper, all endeavour to make good cheer to the utmost of their power. It is considered seemly, however, to separate early, in order not to invade the respect due to Ash-Wednesday; so that the midnight chimes had not long ceased to reverberate, when silence and darkness enveloped the whole town, so lately surrendered to feasting and enjoyment.

A FABLE.

SILENT and sunny was the way

Where Youth and I danced on together:
So winding and embowered o'er
We could not see one rood before:
Nevertheless all merrily

We leaped onward, Youth and I,
Leashed closely in a silken tether:—
(Well-a-day! well-a-day!)

Ah Youth, ah Youth—but I would fain
See thy sweet foolish face again!

It came to pass, one morn of May,

All in a swoon of golden weather,
That I through green-leaved flutterings
Saw Joy uprise with Psyche-wings.
Eagerly, so eagerly
We followed after—Youth and I—

Till suddenly he slipped the tether:
(Well-a-day! well-a-day!)

'Where art thou, Youth?' I cried in vain:
He never more came back again.

Yet onward through the winding way,

In rain or shine, I recked not whether,
Like many another maddened boy
I tracked my Psyche-wingèd Joy,
Till curving round the bowery lane,
Lo—in the pathway stood pale Pain,

And we met face to face together.

(Well-a-day! well-a-day!)

'Whence art thou?'—and I writhed in vain.
'Unloose thy cruel grasp, O Pain!'

But he would not. Since, day by day,

He has ta'en up Youth's silken tether,
And changed it into iron bands:
So through rich vales and barren lands
Solemnly, all solemnly,
We march, close knitted—he and I.

And we have grown such friends together—

(Well-a-day! well-a-day!)

I and this my brother Pain—

I think we'll never part again.

PROGRESS OF WOMAN.

We now see that a woman can fill the chair, and well. I look over the past five years, and find many arguments supplied to us in that time. We have now authority. It was said women could not be doctors. Well, Harriet Hunt has proved by practice that a woman can be, and is, a successful physician. You have now two women in your city who are able medical practitioners. We have female medical colleges with classes. Thus one point is gained. We could not be merchants! I know a woman in Lowell who is a successful merchant. Mrs Tindale has for many years conducted a shoe-store there, and grown rich by her trade. In the ministry we are also represented. The sermon of Antoinette Brown, at Metropolitan Hall, is enough to show that. In Chicago, a woman is cashier of a bank; two editors of papers (women) sit near me.—*Speech of Miss Lucy Stone at the Woman's Rights Convention in New York.* [This is quoted from the *Una*, a paper published at Providence, R. I., and 'devoted to the elevation of woman.' Its advertisements are chiefly from female practitioners in medicine, &c.]

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